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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,099	12/31/2003	Anees Narsinh	134170	1338
35114	7590	07/27/2007		
ALCATEL LUCENT (FKA ALCATEL INTERNETWORKING, INC.) INTELLECTUAL PROPERTY & STANDARDS 3400 W. PLANO PARKWAY, MS LEGL2 PLANO, TX 75075			EXAMINER SHIN, KYUNG H	
			ART UNIT 2143	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/751,099	Applicant(s) NARSINH ET AL.	
	Examiner Kyung H. Shin	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/31/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/31/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892). | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/15/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responding to application papers filed on **12-31-2003**.
2. Claims **1 - 12** are pending. Claims **1, 2** are independent.

Double Patenting

3. The **nonstatutory double patenting** rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130 (b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. **Claims 1, 2, 8 - 12** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting under the judicially created doctrine of double patenting over:

claims 1, 2, 8 - 12, 14 of Application No. **10/750,702** (PGPUB: 2005,014,1510),

claims 1, 2, 5-9, 11-13, 17-21 of Application No. **10/750,922**,

claims 1, 2, 8 - 12 of Application No. **10/751,129** (PGPUB: 2005,019,8258),

under the same title **“Parallel data link layer controllers in a network switching device”**

This is a **provisional** double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending applications and would be covered by any patent granted on that copending application, since the referenced copending applications and the instant application are claiming common subject matter, as follows:

Application			
2005,014,1510	2005,014,1510	2005,019,8258	No PGPUB
10/751,099	10/750,702	10751129	10750922
12 claims	14 claims	14 claims	21 claims
Indp - 1a,b	Indp - 1a,b	Indp - 1a	Indp-1a, 12b
Indp - 2abcde	Indp – 2acdeb	Indp – 2aebc	Indp-2abcd, 13eabd
3	3		
4	4		
5	5		
6	6		
7	7		
8	8	3	5, 16
9	9	5	6, 17
10	11	6	8, 19
11	12	7	9, 20
12	14	8	11, 21

5. **Claims 1 and 2** of the instant application (10/751,099) is rejected on the ground of nonstatutory provisional obviousness-type double patenting as being unpatentable over **claims 1 and 2** of other Applications. Although the conflicting claims

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are not identical, they are not patentably distinct from each other, because the claims of the `702 application "anticipate" the broader instant application claim. Accordingly, the application claims are not patentably distinct from the `702 application claims. Since it is clear that the more specific (i.e., VLAN tag state, ID, TCI field) of `702 application claim encompass the instant application claim, following the rationale in *In re Goodman* cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate **terminal disclaimer**.

The remaining claims of other applications follow similar reasoning.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **1 - 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Crinion et al.** (US Patent No. **6,181,699**) in view of **Hussain et al.** (US Patent No. **7,161,904**).

Regarding Claim 1, Crinion discloses a data link layer processor comprising:

- a) one or more media access controllers (MACs); (see Crinion Figure 8; col. 5, lines 66-67; col. 6, line 66 - col. 7, line 3; col. 8, lines 17-19; col. 8, lines 34-37: MAC (Ethernet) access for data frames, input and output)

Crinion does not specifically disclose a traffic shifter for discarding one or more frames that exceed a bandwidth requirement.

However, Hussain discloses:

- b) a traffic shaper, operatively coupled to the one or more MACs, for discarding one or more frames that exceed a bandwidth requirement prior to transmission to the MACs. (see Hussain col. 9, lines 57-64; col. 10, lines 14-16: discards frames that do not conform to bandwidth requirements, rate limit egress (output) flow: must drop packet prior to transmission to output queue or MACs)

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for discarding one or more frames that exceed a bandwidth requirement prior to output. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36: “ ... *In the case of a multi-client network, for example, it may be desirable to meter and/or identify customers, or certain groups of customers, that are oversubscribing (e.g., using more than their allocated bandwidth).* ... “; col. 1, lines 43-49: “ ... *Thus there is a general need for an improved system and method for performing metering in a*

virtual router based network switch. There is also a general need for a system and method for performing metering in a multi-client network that distinguishes between clients and groups of clients. There is also a need for a system and method that supports a fair sharing of communication resources. ... ")

Regarding Claim 2, Crinion discloses a switching device comprising:

- a) one or more physical layer interfaces for transmitting frames to a communication network; (see Crinion Figure 8; col. 8, lines 26-28; col. 5, lines 66-67; col. 6, line 66 - col. 7, line 3; col. 8, lines 17-19; col. 8, lines 34-37: MAC (Ethernet) access for data frames, input/output)
- b) a network processor for routing the frames towards the one or more physical layer interfaces; (see Crinion Figure 8; col. 2, lines 46-54: process (processor) network traffic; col. 1, lines 7-10; col. 5, lines 17-19: routing data frames) and
- c) a plurality of data link layer processors (see Crinion Figure 8; col. 5, lines 26-28; col. 8, lines 17-19: data link layer (MAC) processor(s), 802.3 LAN users), wherein each data link layer processor comprises:
 - d) one or more MACs, wherein each MAC is operatively coupled to a physical layer interface; (see Crinion Figure 8; col. 8, lines 26-28; col. 5, lines 66-67; col. 6, line 66 - col. 7, line 3; col. 8, lines 17-19; col. 8, lines 34-37: MAC (Ethernet, 802.3 LAN users) access for data frame) and

Crinion does not specifically a traffic shaper for discarding one or more frames from the network processor that exceed one or more bandwidth parameters.

However, Hussain discloses:

- e) a traffic shaper, operatively coupled to the one or more MACs, for discarding one or more frames from the network processor that exceed one or more bandwidth parameters prior to transmission to the MACs. (see Hussain col. 9, lines 57-64; col. 10, lines 14-16: discards frames that do not conform to bandwidth requirements, rate limit egress (output) flow: must drop packet prior to transmission to output queue or MACs)

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for a traffic shaper for discarding one or more frames from the network processor that exceed one or more bandwidth parameters. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

Regarding Claim 3, Crinion discloses the switching device of claim 2, wherein the traffic shaper discards the one or more frames in accordance with a Three Color Marker (TCM) algorithm. (see Hussain col. 7, lines 15-19; col. 10, lines 1-3: Three Color

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Marker (TCM) algorithm (RFC 2698) utilized, discard frames based on TCM requirements)

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for a traffic shaper for discarding one or more frames from the network processor that exceed one or more bandwidth parameters. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

Regarding Claim 4, Crinion discloses the switching device of claim 3, wherein the TCM algorithm is selected from the group consisting of: single rate TCM, two rate TCM, and a combination thereof. (see Hussain col. 7, lines 15-19; col. 10, lines 1-3: TCM: two rate TCM disclosed))

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for a traffic shaper for discarding one or more frames from the network processor that exceed one or more bandwidth parameters. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

Regarding Claim 5, Crinion discloses the switching device of claim 2, wherein the traffic shaper comprises:

- a) a meter module for determining a flow rate associated with the frames received from the network processor; (see Hussain col. 2, lines 32-36; col. 2, lines 41-44: processor utilized to determine a packet flow rate (bandwidth)) and
- b) a discard control logic for selectively discarding said one or more frames based upon the flow rate and the one or more bandwidth parameters. (see Hussain col. 9, lines 57-61; col. 10, lines 14-16: drop (discard) frames selectively (based on criteria))

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for a traffic shaper for discarding one or more frames from the network processor that exceed one or more bandwidth parameters. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

Regarding Claim 6, Crinion discloses the switching device of claim 5, wherein the traffic shaper further comprises a marker module for marking the plurality of frames in accordance with a TCM algorithm. (see Hussain col. 7, lines 15-19; col. 10, lines 1-3: mark frames based on TCM algorithm (discard, do not discard))

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for a traffic shaper for discarding one or more frames from the network processor that exceed one or more bandwidth parameters. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

Regarding Claim 7, Crinion discloses the switching device of claim 6, wherein the one or more bandwidth parameters comprise a committed information rate (CIR) and an excess burst size (EBS). (see Hussain col. 2, lines 64-67: committed information rate (CIR); col. 10, lines 3-8: peak (excess) burst size: equivalent 2 burst sizes (committed, peak (excess))

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for bandwidth parameters committed information rate (CIR) and excess (peak) burst size (EBS). One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

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Regarding Claim 8, Crinion discloses the switching device of claim 2, wherein the traffic shaper comprises a flow search engine for classifying frames from the network processor based upon one or more properties associated with the frames. (see Hussain col. 8, lines 56-62; col. 7, lines 62-64: flow classification for packets using header information (properties of packet))

It would have been obvious to one of ordinary skill in the art to modify Crinion as taught by Hussain to enable the capability for classifying frames based on frame properties. One of ordinary skill in the art would have been motivated to employ the teachings of Hussain in order to enable the capability to perform a fair allocation of bandwidth with network packet based metering within a virtual network environment. (see Hussain col. 1, lines 33-36; col. 1, lines 43-49)

Regarding Claim 9, Crinion discloses the switching device of claim 8, wherein the flow search engine comprises a content addressable memory (CAM). (see Crinion col. 1, lines 52-54; col. 2, lines 55-57; col. 3, lines 3-4: CAM utilized in data frame processing)

Regarding Claim 10, Crinion discloses the switching device of claim 8, wherein the CAM associated with each of the plurality of data link layer processors consists of QoS rules pertaining to the associated plurality of physical layer interfaces. (see Crinion col. 1, lines 47-49; col. 3, lines 26-27: set priority, determination of quality of service (QoS) for data frame(s))

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Regarding Claim 11, Crinion discloses the switching device of claim 2, wherein data link layer processors are media access controller (MAC) processors. (see Crinion col. 8, lines 26-28; col. 5, lines 66-67; col. 6, line 66 - col. 7, line 3; col. 8, lines 17-19; col. 8, lines 34-37: MAC (Ethernet, 802.3 LAN users) access for data frames)

Regarding Claim 12, Crinion discloses the switching device of claim 2, wherein the switching device is selected from the group consisting of: a router, a multi-layer switching device, and a switch blade. (see Crinion col. 2, lines 50-51; col. 4, lines 45-48: switch (switching device))

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyung H. Shin whose telephone number is (571) 272-3920. The examiner can normally be reached on 9:30 am - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kyung Hye Shin
Patent Examiner
Art Unit 2143

Kyung Hye Shin

KHS

July 9, 2007